## **QR Code Generator**

## **Overview**

This project helps students gain hands-on experience by building a **QR Code Generator web application** using an external JavaScript library. The application allows users to input a URL, generate a corresponding QR code, and perform related actions like download and sharing.

## **🎯 Learning Objectives**

By completing this project, students will:

* Strengthen their skills in **HTML, CSS, and JavaScript**.
* Learn how to **integrate and use external JavaScript libraries**.
* Develop an **interactive and responsive web application**.
* Understand how to handle **user input**, **DOM manipulation**, and **basic event handling**.
* Implement features like **image download** and **clipboard copy**.

## **Project Requirements**

### **Functional Requirements**

* A field for the user to **enter a URL**.
* A **"Generate QR Code"** button to generate the QR image.
* Display of the generated **QR code** on the page.
* A **"Download"** button to save the QR code as an image.
* A **"Share"** button to copy the input URL to the clipboard.
* The application must be **responsive** on all screen sizes.

### **Technical Requirements**

* Use **HTML** for the structure of the webpage.
* Use **CSS** to style the layout and ensure responsiveness.
* Use **Vanilla JavaScript** to implement all interactive functionality.
* Use the **QRCode.js** library to generate QR codes.

| <script src="https://cdnjs.cloudflare.com/ajax/libs/qrcodejs/1.0.0/qrcode.min.js">  </**script**> |
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**Tech Stack**

* **HTML** – for structuring the page content
* **CSS** – for layout, design, and responsiveness
* **JavaScript** – for interactivity and logic
* **qrcodejs Library** – to generate the QR codes

## **Instructions for Students**

1. Design the layout and user interface using HTML and CSS.
2. Add an input field, a QR code display section, and buttons for generate, download, and share functionalities.
3. Use JavaScript to:  
   * Capture user input
   * Generate the QR code using an external library
   * Enable download and share functionalities
4. Ensure the page works well on desktops, tablets, and mobile devices.
5. Test all features thoroughly.
6. Deploy the solution using a platform like GitHub Pages, Netlify, or Vercel.

## **📂 Submission Format**

* **Repository URL**: Link to your GitHub repository containing all source code.
* **Demo URL**: Live link to your deployed application.

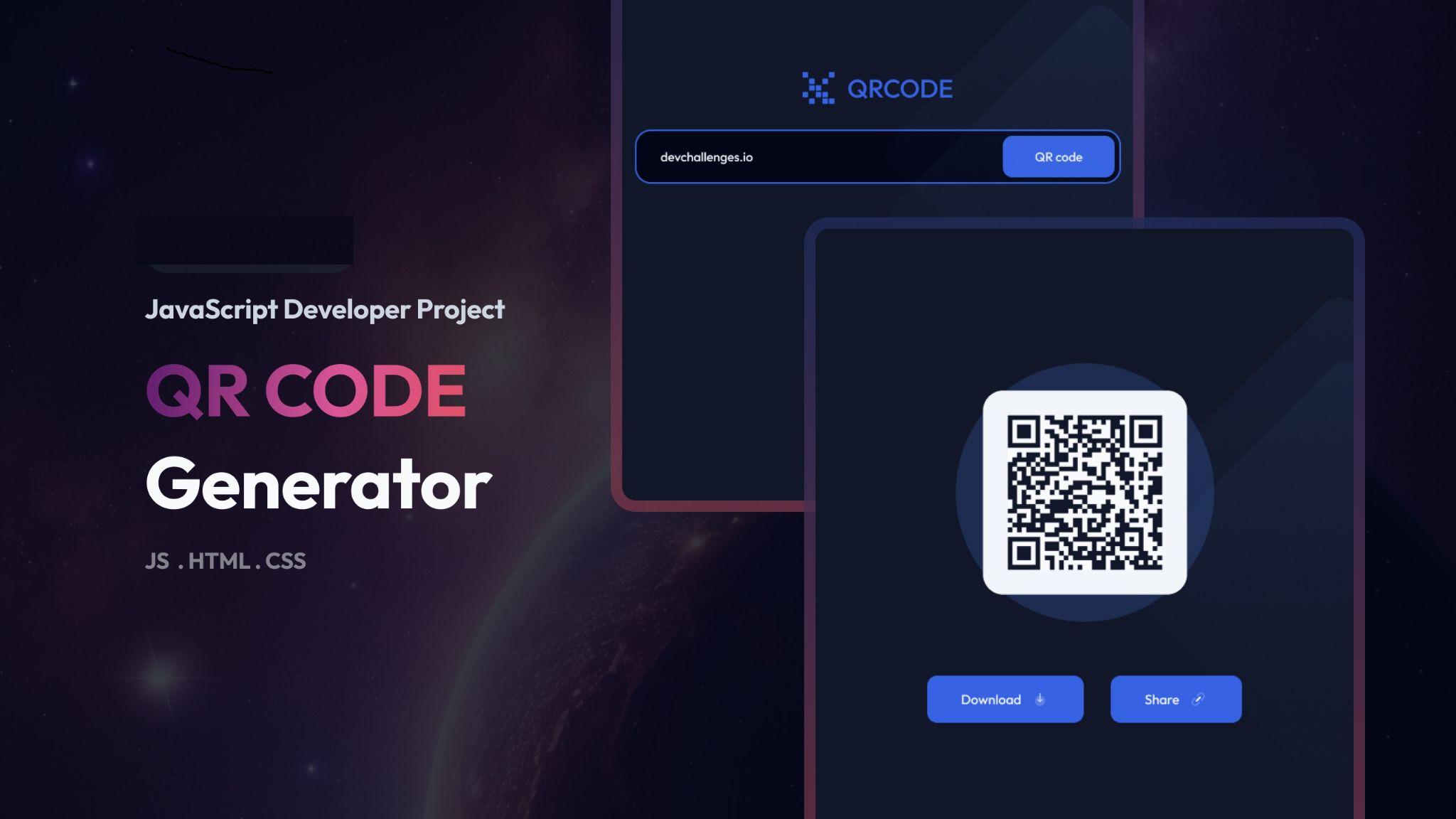
## **🔄 User Stories**

* ✅ As a user, I can enter a URL to generate its QR code.
* ✅ As a user, I can download the QR code image.
* ✅ As a user, I can copy the URL to my clipboard using a share button.
* ✅ As a user, I can access and use the application on both desktop and mobile devices.

**Bonus Challenges (Optional)**

* Add input validation to ensure proper URL formatting.
* Add theme switching (dark/light mode).
* Display a success message when a URL is copied or QR code is downloaded.
* Include animations for a smoother user experience.

**Expected Output WebPage**

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